



Research Subcommittee

Tuesday, March 7, 2006

Under Research & Technology Block -8:00 am –3:00pm

Chair: Patrick Muessig, Azon, USA, Inc.

Vice Chair: Rich Biscoe, ATI, Inc.

- 1. The chair called the meeting to order**
- 2. Appoint recording secretary (Jessica Ferris)**
- 3. Agenda reviewed and approved**
- 4. Minutes from Fall 2005 Membership meeting (Santa Fe) was approved as presented.**
- 5. Reports:**
 - a. Effect of Surface Heat Transfer Coefficients on U-Factors for Projecting and Highly Conductive Products: Final Report from Charlie Curcija - PMTG (Tom Culp, Chair.) Will remain on the agenda until the ASHRAE paper is submitted (Pay final 10%) – dissolved.
 - b. 3D Heat Transfer Effects in Fenestration Products: Final Report from Charlie Curcija -PMTG (Jeff Baker, Chair).) On Agenda until ASHRAE paper is submitted (Pay final 10%) – dissolved
 - c. U-factor Rating of Domed Skylights. Report from PMTG (Dave De Block, Chair). No progress.
 - d. Thermal Comfort Rating. Final Report from PMTG (John Hogan, Chair) – report posted to the NFRC website. PMTG reviewed comments and made revisions. Ready to approve final report. Look at executive summary and report itself. Task for the investigator was to review the current literature and develop a methodology for a comfort index – A winter comfort rating and summer comfort rating.

Motion: For comfort research project, PMTG recommends approval of the final report and 80% payment to the contractor with the final 20% payment to contractor upon completion of the peer review paper.

M/S J. Hogan
S. Gore

Further discussion:



From Birch Consulting – include comments submitted about this report should be included as an appendix; it should be part of the report so that if these issues come up again we can address.

Motion to amend the motion to approve the Thermal Comfort final research report to include all received comments as an appendix in the final report, as well as any other comments received within sixty (60) days from today.

M/S T. Culp
T. Zaremba

14-approve; 14-opposed; 1-abstain
Motion fails.

Back to previous motion from J. Hogan and S. Gore.

Vote taken:

17- Approved; 4-opposed; 6-Abstain
Motion passes

Research SC Chair requests that comments are to be posted to the Thermal Comfort task group page of the NFRC website.

- e. Investigation of Heat Transfer Effects of Sloped and Ventilated Internal Cavities of Framing Systems. Report from PMTG (Sam Yuan, Chair – not present). Staff has not received a draft report yet. The final report is due by the end of 2006. According to Charlie C., the project is scheduled to be completed this month; the final report will be completed within the next month.
- f. U-factor Rating of Tubular Daylighting Devices. Report from PMTG (Dave De Block, chair)

Motion: TDD U-factor Test PMTG recommends payment of 80% of the project while awaiting peer reviewable paper and written test method (minus funds already sent), to be finalized by summer meeting in July.

M/S D. DeBlock
P. Jaster

Motion pending presentation of research project by Mike Thoman – It is recommended that test-only methodology be used until a better simulation technique is developed. Peer review can be prepared but need to find suitable venue.

Discussion: It is suggested that this report be taken to ASHRAE and Buildings X meetings; the test procedure will be balanced for changes and peer review will be



completed by then. Will need new RFP to go forward to see what else can be developed for simulation.

Motion passes by unanimous voice vote.

Further discussion: A round robin should be conducted to build confidence for this test method.

- g. Carli, Inc. Unsolicited proposal for research Full Draft RFP – presented by Charlie Curcija. Proposes a 2-D method for TDD simulation. This would be a small budget and we can achieve get a good reference point with a better chance of getting apples to apples comparison ratings. Then maybe NFRC can consider a test-only option. This simulation methodology may be a way to validate the measurements. If the results agree within 10% would recommend this as simulation method for TDDs.

Negatives:

Sunergy negative – Validated to actual measurements. More validation with experimental results needed. For example, validate model at a set of conditions. This should be an exploratory project, not one based solely on validation results.

Motion to find negative non-persuasive

M/S D. DeBlock

P. Jaster

6-approve; 7-opposed; 15-abstain

Motion fails

Motion to find Sunergy's negative persuasive.

M/S M. Thoman

C. Mathis

9-approve; 5-not approve; 13 abstain.

Motion passes.

Cardinal negative- This research is not a priority for NFRC.

Motion to find Cardinal's negative persuasive

M/S J. Baker

M. Thoman

14-approve; 5- not approve; 12-abstain

Motion passes

This proposal is dropped.

- h. NFRC 100 & 102 U-factor Standardization Draft RFP. Presentation by Willie DuPont. Skip over

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- i. CTS Project. Report from PMTG (Willie DuPont, co-Chair presents) Initiated in March 2001. ATI and U. Mass was contracted to do this research.

Motion to find Sunergy negative on the 102 CTS Research Project persuasive, and to not pursue this RFP any further at this time.

Discussion: W. Dupont does not see how this benefits NFRC? Therefore this project should be dissolved. This motion, however, does not address the original contract.

M/S J. Hayden
M. McDonald

Further discussion – original project should be terminated as well, especially with component modeling now a priority to address.

Motion passes by unanimous voice vote.

Motion to recommend to the Board of Directors that current CTS research project be terminated, and the contractor be duly compensated for all work done to date, upon receipt of a suitable invoice from the contractor.

M/S J. Hayden
M. Manteghi

Motion passes by unanimous voice vote.

- j. Research Manual Review Task Group – Rich Biscoe – nothing reported.
- k. Long Range Research Planning Task Group – presented by Rich Biscoe. He has been commissioned to pull together a small group of people and resurrect this task group to find out what the NFRC research priorities are.

Proposed new scope:

***Prioritize NFRC's research needs.** To identify and prioritize research items and actively solicit proponents for such research that supports the goals and mission of the National Fenestration Rating Council (NFRC) as defined by the NFRC Board of Directors. This shall be performed using the following three main processes.*

- i. *Forecast potential future technologies that will be involved with NFRC and identify any research necessary to put those technologies in place at NFRC.*
- ii. *Evaluate proposed research projects as to their importance and relevance to the goals of NFRC and communicate that to the Research SC, R & T Committee and Board of Directors by evaluating and grading each project as it comes forward.*



- iii. *Act as a proponent of research topics that are not being addressed by other members of NFRC that are deemed to be of high value and importance to NFRC by the task group.*

M/S R. Biscoe
S. Strawn

After further discussion the motion was withdrawn. It is decided that the task group will go back and work on this scope more.

- l. Research Funding Task Group – Steve Strawn reporting. This task group has been inactive for a couple of years. Steve Strawn is requesting that someone else chair this task group.

6. Unfinished Business

- a. Development of Condensation Resistance Procedure for the Non-Residential Component Modeling Approach. (Charlie Curcija)
i. Ballot Results of Draft RFP - 5 negatives submitted

Westlab negative - There are no deliverables in this RFP.

Motion to find Westlab negative persuasive
M/S C. Mathis
M. Thoman.

Discussion: Perhaps we need to revisit format requirement for RFPs.

10-approve; 4-opposed;16-abstain
Motion passes and RFP is not accepted.

- b. Development of Non-Residential Window Specific Frame Grouping Rules. Draft RFP (Charlie Curcija)
i. Ballot Results of Draft RFP – 4 negatives

Westlab Negative – different grouping rules? Then simulator has a choice. What about systems that fall between the two categories (res and non-res).

Motion to find this negative non-persuasive
M/S M. Turner
M. Manteghi

12- Approve; 8- opposed; 9-abstain
Motion passes



ATI Negative: This RFP is not detailed enough. The RFP must have some criteria set forth in it of what to expect.

Motion to find ATI's negative persuasive

M/S W. Dupont
 C. Mathis

16-approve; 4-opposed; 7-abstain
Motion passes and RFP not accepted.

Motion from C. Mathis to revise RFP is withdrawn.

Discussion held regarding format of Summaries, RFPs, and Proposals. Must lay out what the format of these documents are to be.

- c. IGMA/NFRC Gas Retention Study Update – Bill Lingnell reporting. Ready to write report.
- d. Summary Page RFP for permeability – Will be done in several phases. Will present proposal at next meeting.
- e. Development of Internal Surface Convection Correlations for Energy and Load Calculation Methods – Draft RFP – ASHRAE co-funded (Dan Fisher & Brian Crooks) – nothing reported
- f. Skylight Product Ratings for Energy Performance and Indoor Environment Quality – Full Draft RFP - Dr. Abdelaziz (Aziz) Laouadi - Not heard anything further on this; need to continue to look into this. Was going to look at co-funding.
- g. Review of the financial status of the research budget

7. Other Unfinished Business.

- a. **Unsolicited Proposal** –Simulation methodology for garden house window. Check against a couple more products. To extend this project to look at a couple of more systems. Make sure results are valid.

4 negatives

Pella negative– Why should this be solely researched?

Motion to find Pella's negative persuasive

M/S J. Baker
 M. Hanam

13-approve; 4-oppose; 9-abstain
Motion passes. Have it be rewritten as RFP.



Non-Specular VT Ratings – withdrawn and will be resubmitted at the July meeting.

Any new RFPs are due May 24th – 60 days before summer meeting.

8. New Business:

- a. Future Meeting Schedule. July 2006, Minneapolis , MN

9. Adjourned at 3:55 PM.

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